

FIG. I

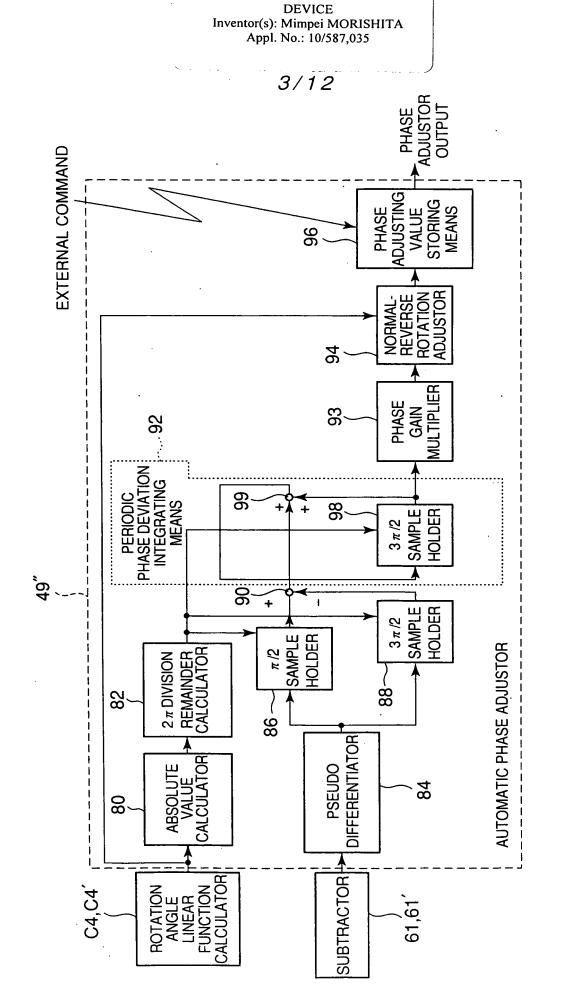
Title: ROTATION DETECTION DEVICE Inventor(s): Mimpei MORISHITA Appl. No.: 10/587,035 2/12 S PROCESSOR RESOLVER RANSMITTING SIGNAL SS 45 ROTARY ELECTRIC MOTOR PHASE ADJUSTOR 5, ROTATION ANGLE PHASE ADJUSTOR 75 73 FIRING ANGLE CONTROLLER CONVERTER THYRISTOR DRIVING UNIT 51+ PERIODICITY GAIN MULTIPLIER INVERTER 49, SINE 55, TORQUE REFERENCE CALCULATOR SINE 23 VELOCITY CONTROL UNIT **}** 55 AMPLITUDE ADJUSTOR 57, <u>S</u>, 29 ANGULAR VELOCITY TARGET PATTERN -GENERATOR ANGULAR VELOCITY CONVERTER AMPLITUDE ADJUSTOR ဗွဲ 33 59,

63,

69

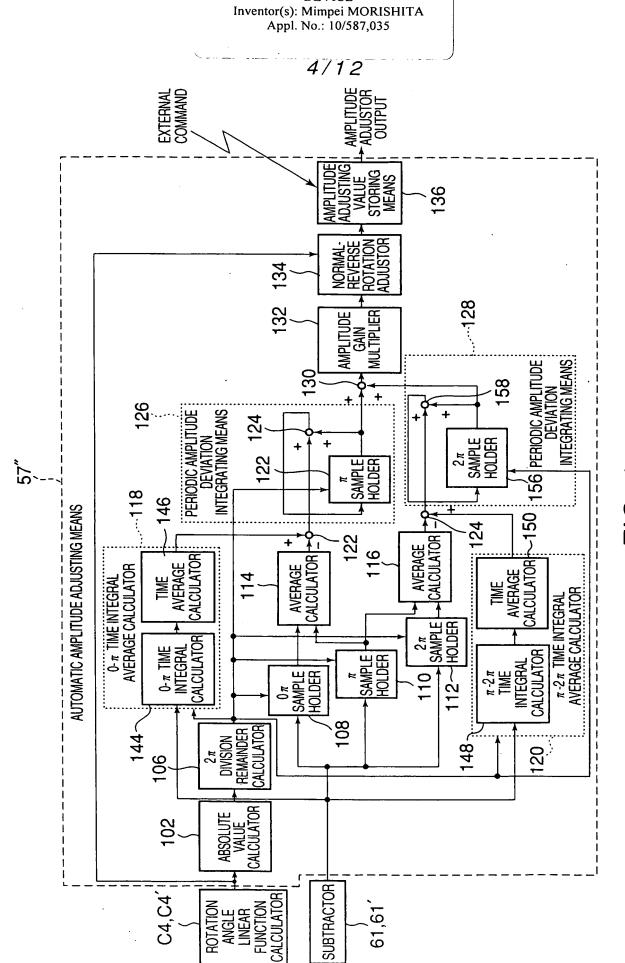
43

FIG. 2



Title: ROTATION DETECTION

FIG. 3



Title: ROTATION DETECTION DEVICE

FIG. 4



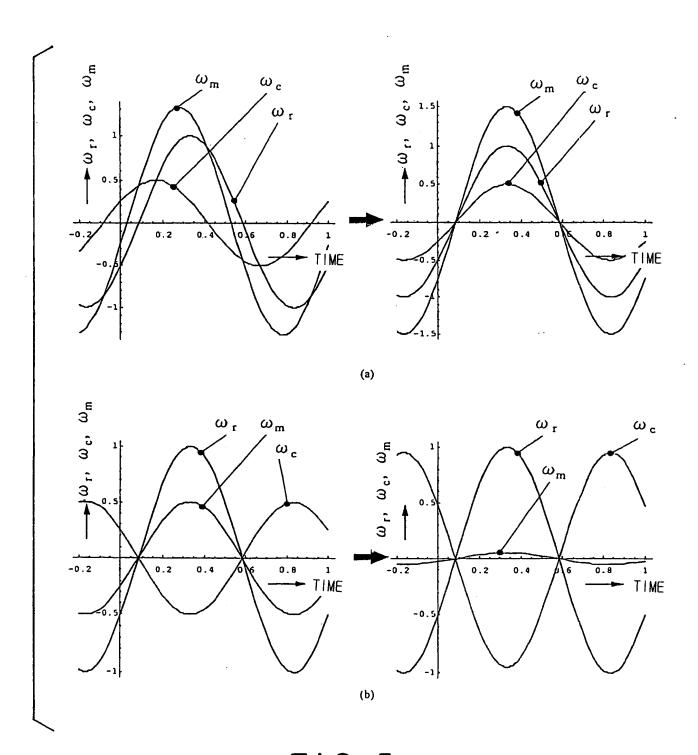
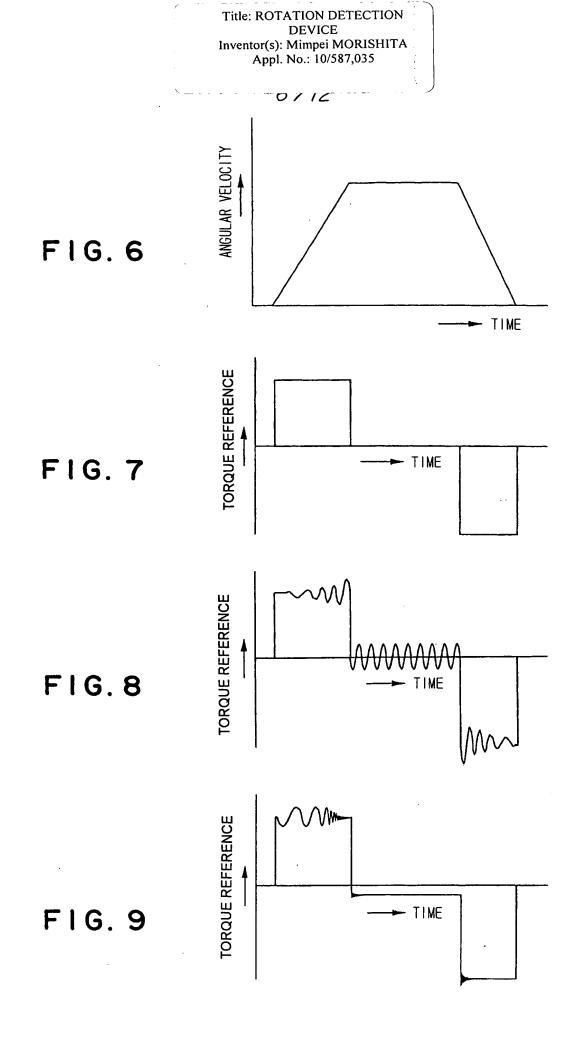


FIG. 5



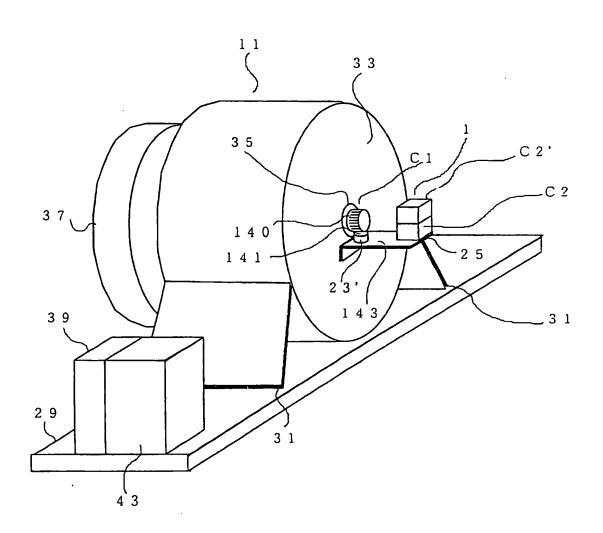


FIG. 10

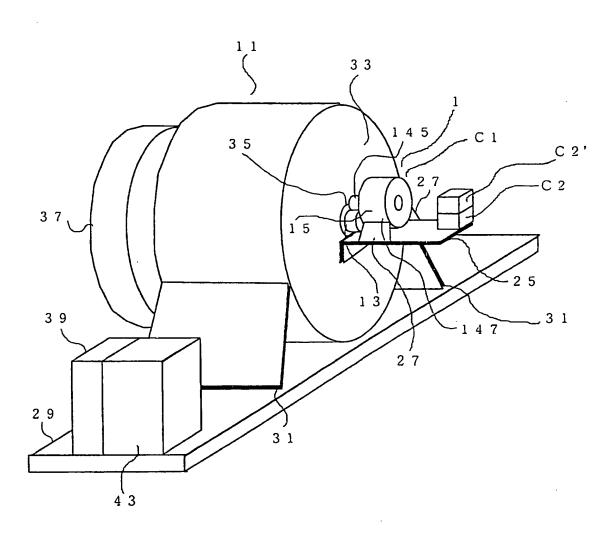
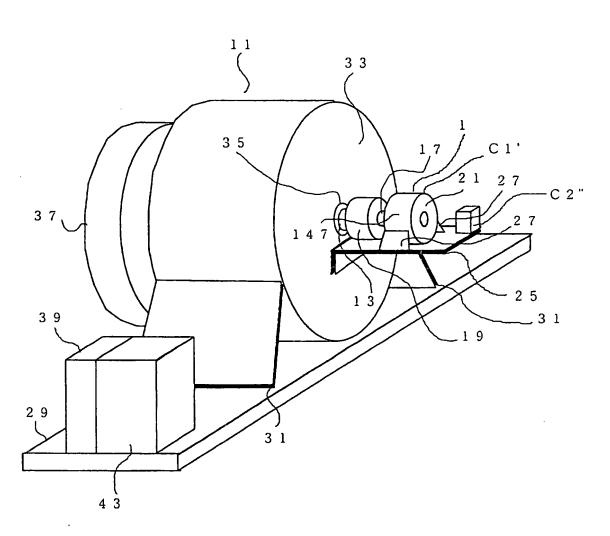


FIG. 11

Title: ROTATION DETECTION
DEVICE

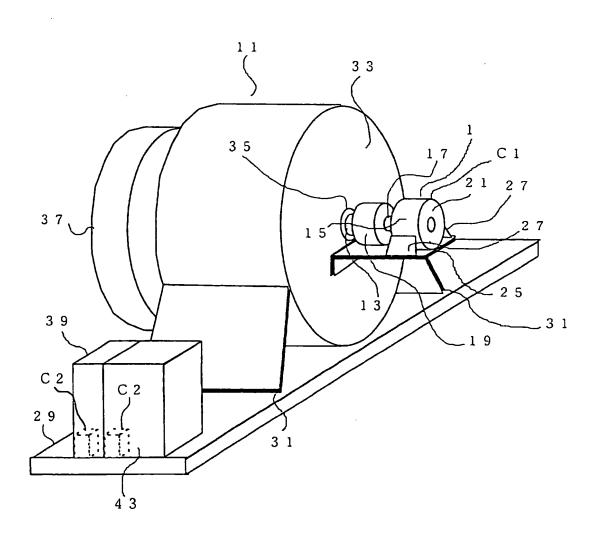
Inventor(s): Mimpei MORISHITA Appl. No.: 10/587,035



F1G.12

Title: ROTATION DETECTION DEVICE Inventor(s): Mimpei MORISHITA Appl. No.: 10/587,035 10/12 47 SIGNAL PROCESSOR ROTARY ENCODER 45 ELECTRIC MOTOR ROTATION ANGLE ROTARY CONVERTER ADJUSTOR SIGN ANALYZER 69 FIRING ANGLE CONTROLLER CONVERTER THYRISTOR **DRIVING UNIT** INVERTER PERIODICITY GAIN MULTIPLIER 49″, 43 51 47 TORQUE REFERENCE CALCULATOR ANGULAR VELOCITY CONVERTER VELOCITY CONTROL UNIT 55 67 AMPLITUDE ADJUSTOR ANGULAR VELOCITY TARGET PATTERN GENERATOR 39 61 65

FIG. 13



F1G.14

Title: ROTATION DETECTION DEVICE Inventor(s): Mimpei MORISHITA Appl. No.: 10/587,035 12/12 9 TRANSMITTING MEANS SIGNAL PROCESSOR  $\Omega^{*}$ RESOLVER ROTATION  $\overline{\omega}$ ELECTRIC MOTOR ROTARY 69 22 FIRING ANGLE CONTROLLER ROTATION CALCULATOR DRIVING UNIT CONVERTER **THYRISTOR** 63, INVERTER ഗ ,64 TORQUE REFERENCE CALCULATOR 67 VEROCITY CONTROL UNIT ROTATION CALCULATOR ANGULAR VELOCITY TARGET PATTERN GENERATOR 39,  $C2^{\circ}$ 

FIG. 15